

CLAIMS

1. A device for providing an angiographic image (A) of a body structure (1) matching a given heartbeat phase (H_d) and a respiratory phase (R_d), comprising a database (2) with angiograms (3, 3a) of the body structure (1) from different heartbeat phases (H) and respiratory phases (R), and a data processing apparatus linked thereto, which is arranged to carry out the following steps:

a) Calculation of a function (f), which describes a change (x) in the body structure (1) dependent upon the respiratory phase (R), which calculation takes place based on from the angiograms (3, 3a) in the database (2);

b) Generation of the angiographic image (A) to be produced from at least one angiogram (3a) of the database (2), whose heartbeat phase (H_1) matches the given heartbeat phase (H_d) with the aid of the calculated function (f).

2. A device as claimed in claim 1, characterized in that the database (2) contains approximately between 10 and 100, and preferably between 30 and 50 angiograms (3).

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3. A device as claimed in claim 1, characterized in that the function (f) describes a change in the position of the body structure (1).

4. A device as claimed in claim 1, characterized in that the data processing apparatus is arranged to determine a change in the position of the body structure (1) by a cross-correlation and/or maximization of the mutual information in relation to a reference angiogram.

25 5. A device as claimed in claim 1, characterized in that the data processing apparatus is arranged to leave static image objects discarded in the calculation of the function (f).

6. A device as claimed in claim 1, characterized in that it includes a display device for superimposed representation of a current image of the body structure (1) and the provided angiographic image (A).

5 7. A device as claimed in claim 1, characterized in that it includes an image-forming apparatus, in particular an X-ray apparatus and/or an MRI device.

8. A device as claimed in claim 1, characterized in that it includes an electrocardiographic device for determining an electrocardiogram.

10 9. A device as claimed in claim 1, characterized in that it includes a respiratory phase sensor.

10. A method for providing an angiographic image (A) of a body structure (1) matching a given heartbeat phase (H_d) and a respiratory phase (R_d), based on a database (2) with angiograms (3, 3a) of the body structure (1) from different heartbeat phases (H) and respiratory phases (R), including the following steps:

- 15 a) Calculation of a function (f) which describes a change in the body structure (1) dependent upon the respiratory phase (R), which calculation takes place based on the
20 angiograms (3, 3a) in the database (2);
b) Generation of the angiographic image (A) to be provided from at least one angiogram (3a) of the database (2), whose heartbeat phase (H_1) matches the given heartbeat phase (H_d), with the aid of the calculated function (f).